

district. This is the first record of its occurrence in an area other than the type locality and about 100 km away from it. About 50 plants were observed on hill slopes around Vasota. It grows in association with *Carvia callosa* (Nees) Bremek. As it is an endangered species, some attempts have been made to grow the species in the Botanical Garden of Shivaji University, Kolhapur.

Abutilon ranadei has great ornamental value. It has large, elegant, showy flowers with pale purple prominent veins on orange-yellow petals. The easiest way to conserve it is by domestication and introduction as an ornamental plant in gardens.

Flowering and fruiting of the species is observed during January to March.

Specimen (MPB-5829) has been deposited in the Herbarium, Department of Botany, Shivaji University, Kolhapur.

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35. ON TWO UNRECORDED SPECIES OF *FAGONIA* TOURN. EX L. FROM MAHARASHTRA

During botanical explorations in Dhule district, Maharashtra, two interesting and noteworthy plants were collected. These were identified as species of *Fagonia* Tourn. ex L. (Zygophyllaceae) hitherto unrecorded from Maharashtra. They are being reported as additions to the flora of the state. These are not only new records for the state but also interesting from the phytogeographic point of view as these species have been previously recorded from Rajasthan. This report shows their wider distribution.

The correct nomenclature, diagnostic characters, habitat, phenology, critical notes and key to the species now recorded from Maharashtra are given. The voucher specimens

are deposited in the herbarium of the College. They are enumerated here.

1) *Fagonia bruguieri* DC., Prodr. 1: 704.1824; Boiss., Fl. Orient. 1: 905. 1867; Edgew. & Hook.f. in Hook.f., Fl. Brit. India 1: 425.1874; Hadidi in Candollea 21:21.1966; Ghafoor in Nasir & Ali, Fl. W. Pak. 76: 11.1974; Shetty & Singh, Fl. Rajasthan 1:162.1987.

A prostrate to suberect, branched undershrub, branches quadrangular, sulcate, striate, glandular-pubescent, internodes upto 1.4 cm long. Leaves opposite, glandular-hairy, 3- and 1- foliolate, leaflets ovate-oblong, sometimes slightly falcate, fleshy, long mucronate, 0.4-1.5 cm long, the mid-leaflet the longest, petioles upto 0.5 cm long. Stipular spines

straight, rarely slightly curved, glandular-pubescent, upto 1.6 cm long. Flowers small \pm 1.1 cm across, hypogynous, pale pink, fading white, solitary, axillary, pedicel upto 0.5 cm long; sepals 5, green, ovate-triangular, obscurely 3-nerved, nerves branched, glandular-hairy, acute, upto 0.4 cm long, persistent; petals 5, distinct, spatulate, clawed, upto 0.8 cm long, obtuse, mucronate, veins dichotomous; stamens 10, upto 0.4 cm long, glabrous, anthers yellow, oblong, ditheous, dorsifixed, dehiscence longitudinal, pollen grains spherical; pistil 5-carpellate, ovary pubescent, style glabrous, tapering, stigma simple. Capsules pyramidal, 0.4 x 0.3 cm, pubescent, separating into five 1-seeded cocci when dry, tipped with persistent style.

D.A. Patil: Borvahir 608, Kusumba 1192

2) *Fagonia schweinfurthii* (Hadidi) Hadidi (in Osterr. Bot. ed. 2. 2.121: 273.1973) ex Ghafoor in Jafri & El Gadi, Fl. Libya 38: 31.1977; *F. indica* Burm. f. var. *schweinfurthii* Hadidi in Rech.f., Fl. Iran 98: 6.t.6.1972; Ghafoor in Nasir & Ali, Fl. W.Pak. 76: 19.1974; Shetty & Singh, Fl. Rajasthan 1: 163.1987.

A prostrate to suberect undershrub, internodes terete, striate, 1-2 cm long, glandular-pubescent. Leaves opposite, 3- and 1- foliolate, leaflets linear-lanceolate, 1-2 cm long, mid-leaflet the longest, glandular-hairy, petioles 0.5-1.0 cm long. Stipular spines 1.0 cm long, straight, glandular-hairy. Flowers small, hypogynous, pinkish, 1.0 cm across, pedicel 0.4 cm long, sparsely glandular-hairy to glabrous; sepals ovate, 0.3-0.4 cm long, sparsely glandular-hairy, persistent; petals 5, free 0.4-0.6 cm long, obtuse; stamens 10, 0.4 cm long, anthers yellow, ditheous, dehiscence longitudinal; pistil 5-carpellate, ovary pubescent, style glabrescent, 0.7 cm long, stigma simple. Capsule pyramidal, 0.4 x 0.4 cm, separating into five 1-seeded cocci when dry, tipped with persistent style, pubescent.

D.A. Patil: Nandre 1431: Bhilwad 1592

Phenology: Both the species flower and fruit mostly from September to May.

Both the species are found particularly in Dhule and Sakri taluka of the district. They are sympatric and grow on gravelly soils. They are found as roadside weeds, on wasteland, fallow lands and even as crop weeds. They form small, spiny cushions, and are generally avoided by livestock. The lower 3-foliolate leaves of the main stem-axis are not generally observed later in the life-span of these taxa, and hence one may mistake them for 1-foliolate leaves. The glandular leaf hairs slough off with age and render them glabrous. The capsules start dehiscing from below and then separate into 1-seeded cocci. The latter being light are dispersed by wind.

Dr. Karthikeyan of Western Circle, BSI, Pune, informed us of the rare occurrence of *F. indica*, Burm.f. (= *F. cretica* Linn.) in Maharashtra, particularly from the drier parts of the districts viz., Ahmednagar, Pune and Satara. It is not found in Dhule dist. but the species described above are common here. However, these are not reported from Gujarat (Shah 1978) except *F. indica*. Apart from *F. indica* the other two species mentioned in the present communication occur in Rajasthan (Shetty and Singh, 1987). Hooker (1875) described only two species from India and remarked "Species variously estimated from 2 or 3 to 30, being variable and difficult to define". This remark and the present report stress the necessity for a careful search in the field and herbaria for more data on distribution of these species elsewhere in Maharashtra, Gujarat and Karnataka.

Key to the species of *Fagonia* from Maharashtra:

1. Internodes 4-angular; spines longer than the leaves *F. bruguieri*
1. Internodes terete; spines equal to or shorter than the leaves 2
- 2a. Lower leaves 3- and upper ones 1- foliolate *F. schweinfurthii*
- 2b. All leaves 1- foliolate *F. indica*

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36. NOTES ON THE OCCURRENCE OF *WAHLENBERGIA HOOKERI* AND *ANISOCHILUS VERTICILLATUS* IN TAMIL NADU

During botanical exploration in Mudumalai Wildlife Sanctuary, Nilgiris, the authors came across the plant species which were not collected by earlier workers. Henry *et al.* (1987) did not include these species in the FLORA OF TAMIL NADU, India. ser. I: Analysis. Hence these species are dealt with here. These species are poorly represented in MH. To facilitate identification of these species a brief description is given.

Wahlenbergia hookeri (C.B. Clarke) Tuyn in Fl. Males. ser. 1.6:116. 1960. *Cephalostigma hookeri* C.B. Clarke in Hook. f., Fl. Brit. India 3: 429. 1881; Gamble, Fl. Pres. Madras 738. 1921 (Repr. ed. 519. 1957) (Campanulaceae).

Slender erect herbs, 10-20 cm high, hispid. Leaves 2-3.5 x 0.5-1 cm, elliptic-oblong, lanceolate; crenate-serrate along margin, acute-obtuse at apex, sparsely hairy. Panicles terminal, 10-15 cm long; pedicels filiform, 0.5-2 cm long; bracts tooth-like. Calyx tube campanulate, lobes 5, glabrous, persistent. Corolla lobes 5, pale blue, oblanceolate. Stamens 5, filaments dilated at base. Capsules 2-valved, loculicidal, glabrous. Seeds many, ellipsoid, trigonous, brown.

Fl. & Fr.: September-December; in moist shady places.

Specimen examined: Jenubaribetta, Doddagatti. *D. Stephen* 97991, 13.xii.1991.

Note: This is one of the rare plants. Though Gamble (*l.c.*) reported this species from Western Ghats there is no specimen in MH. Henry *et al.* (1987) does not include this species in the FLORA OF TAMIL NADU, India. ser. I: Analysis. Hence this species is an addition to the FLORA OF TAMIL NADU.

Anisochilus verticillatus Hook. f., Fl. Brit. India 4: 629. 1889; Gamble, Fl. Pres. Madras 1128. 1924 (Repr. ed. 788. 1957) (Labiatae).

Herbs or subshrubs, 0.5-1 m high; root stock woody; stems grooved, pubescent. Leaves 1.5-4.5 x 0.2-2 cm, whorled, sessile, elliptic-oblong, oblanceolate, entire or shallowly crenate along the margin, acute at apex, silky hairy; nerves 4-5 pairs. Spikes terminal, cylindrical, 7-12 cm long; bracts lanceolate. Calyx 2-lipped; upper lip 3-toothed, lower truncate, villous. Corolla white, 2-lipped, lower lip decurved, glandular. Stamens 4, didynamous. Styles bifid. Nutlets 4, ovoid.

Fl. & Fr.: August-October in open grasslands.

Specimen examined: Boleguda. *D. Stephen* 97927, 15.x.1991.

Note: Gamble (*l.c.*) reported its occurrence based on Beddome's collection from Hyderabad